

## How do High Risk Counties Protect All Youth?

### FACT SHEET: Greater Community Capacity – Decrease in Rates of Alcohol, Cigarette and Marijuana Use for the Youth Population as a Whole

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This brief report presents preliminary findings from an ongoing study documenting how four high risk counties in the State of Washington managed to build community capacity and achieve significantly higher reductions in substance use in the past ten years, among *all* their youth, *the whole youth population*.

These findings may be important for current policy discussions on how best to restructure efforts in times of fiscal crises - decreased funding for many specialized ‘prevention’ programs, and the opportunity to partner better with local communities in mutually beneficial ways. *See the Institute of Medicine’s 2009 report (1).*

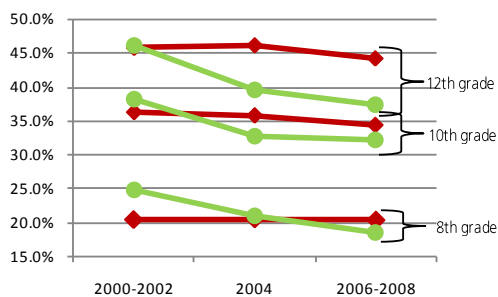
This study focuses on counties where resources are limited and challenges are great. Poorer and often rural, these counties are confronting an accumulation of youth and family problems with large at risk populations.

This study is able to take advantage of newly available results from the Healthy Youth Surveys conducted in schools every two years from 2000 to 2008 with response rates sufficient to estimate trends at smaller geographic levels - including most smaller counties and most school districts in larger counties.

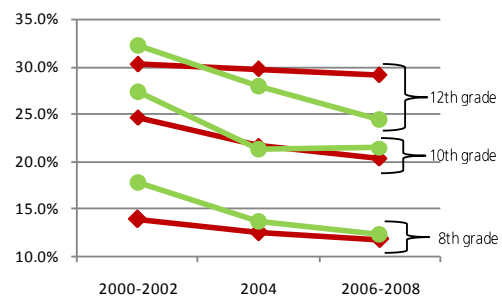
#### MAJOR FINDINGS OF TRENDS FROM 2000-2008

- Overall, community-wide substance use rates were reduced significantly more among youth in high risk counties with higher community capacity than in similar, neighboring high risk counties with lower community capacity. *See **green** trend lines of substance use for higher community capacity counties compared to **red** trend lines for counties with lower capacity in the graphs below.*
- Major community wide reductions occurred in four measures of substance use - any alcohol use, binge drinking, marijuana and cigarette use, among youth in all three grade levels - 8<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup>.

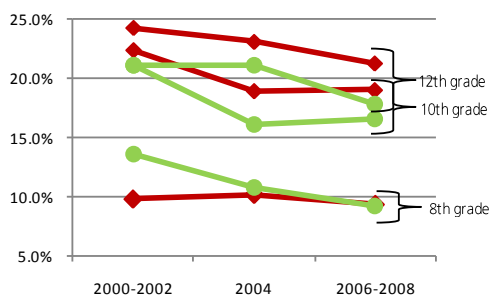
**Alcohol (30 day Use)**



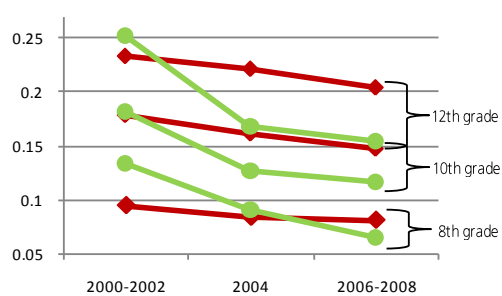
**Binge Drinking (2 weeks)**



**Marijuana (30 day Use)**



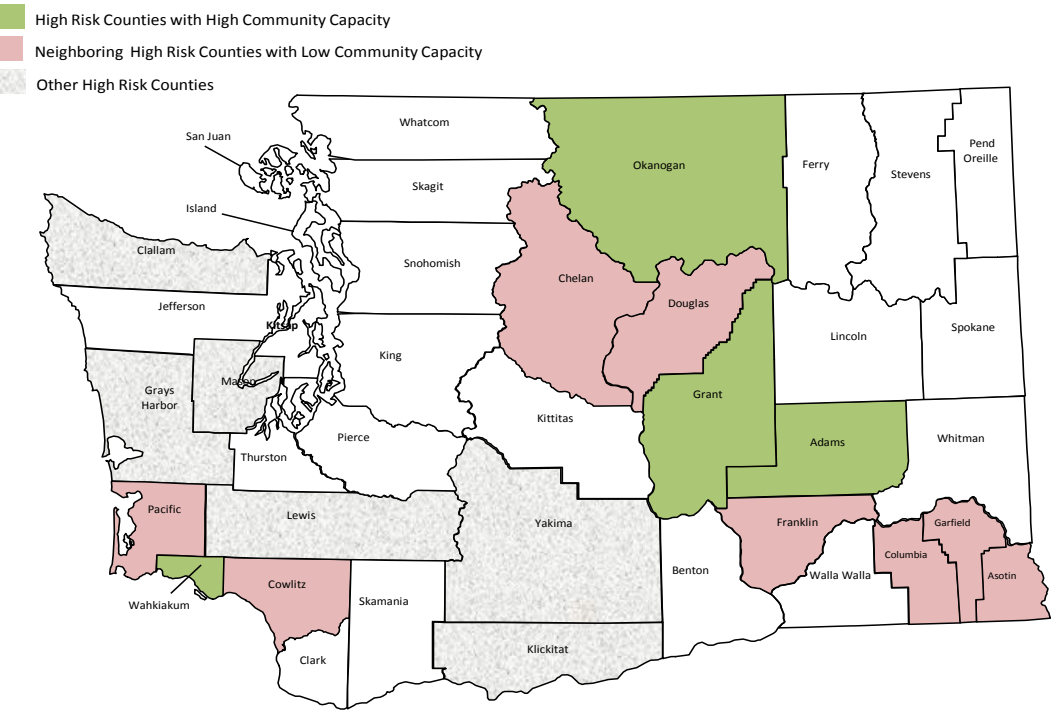
**Cigarettes (30 day Use)**



How were counties chosen for this study?

- 1. All “high risk” counties in Washington state were identified based on indicators of Adverse Childhood Experiences – See table below where indicators having “high risk” values are colored red.
- 2. Among these “high risk” counties, only four had “high community capacity” (ranked in top 50% statewide)– See the map of the state below with ‘high risk’ / high capacity counties shaded green.
- 3. Eight comparison counties were chosen among neighboring counties that were also “high risk” but ranked in the bottom 25% on community capacity– shaded pink in the map below.

High Risk Counties with High & Low Community Capacity



Risk Indicators in High Risk Counties With High & Low Community Capacity

		Risk Categories Related to the Adverse Childhood Experience (ACE) Study										Other Risk Indicators					
		Child Abuse /Neglect		Mentally Ill, Depressed, or Suicidal Person in Home		Drug Addicted or Alcoholic of Family Member		Witnessing DV Against Mother		Incarceration- Any Family Member		Sense of Safety	Infant		Education		
High Risk Counties with High Community Capacity	Grant																
	Wahkiakum																
	Okanogan																
	Adams																
Neighboring High Risk Counties with Low Community Capacity	Pacific																
	Franklin																
	Cowlitz																
	Columbia																
	Garfield																
	Asotin																
	Chelan																
Other High Risk Counties	Douglas																
	Yakima																
	Klickitat																
	Mason																
	Grays Harbor																
	Clallam																
	Lewis																

Worst Quartile

See complete table in Appendix for data on all Washington State counties and for details on indicators used.

## How was Community Capacity assessed?

Community Capacity is more than just “individual” or “organizational” capacity (Flaspohler, 2008) to implement prevention programs. It includes shared focus, collaborative leadership among a set of widespread community partners, innovative strategies based on learning from changing conditions, and result-based decision making – *See four dimensions outlined in boxes on the right.*

Community capacity was rated every other year since 1998 by external reviewers based on reports submitted to the Family Policy Council. A community capacity index was computed by averaging the independent ratings of the different reviews across the four dimensions. An analysis of recent ratings showed good inter-rater reliability (around .80).

This study uses a ten-year community capacity measure, calculated by averaging the past five indices (1998 to present).

### FOCUS: -Strategic and shared

- Body of work, linked to comprehensive long-term plan (not single projects)
- Tied to community values/intentions

### LEADERSHIP -Collaborative

- With whole community, partnerships
- Leveraged resources
- Sustainable efforts

### LEARNING -

- Innovation
- Learning from changing conditions & experiences

### RESULTS -Careful attention to

- Measured “risks”
- Results-based decisions (in community dialogue & deliberations)

## How were differences in youth’s reduction of substance use tested statistically among high risk counties?

<b>Dependent variable – substance use:</b>	Likelihood of youth using each substance: alcohol, marijuana and cigarettes.
<b>Independent variable – capacity x time:</b>	Effect of time (2000,02,04,06,08 surveys) in high versus low community capacity counties.
<b>Difference in trends of use over time:</b>	Difference between high and low capacity counties in yearly change in use. (measured by slope - “b” values in table below)
<b>Control variables:</b>	Effects of differences in county social and economic characteristics and youth ethnicity at baseline and of different changes in these characteristics through time. (See note at bottom of table for list of variables)
<b>Statistical test:</b>	Logistic regression analysis tested whether changes in substance use through time were significantly different between high capacity and low capacity counties controlling for differences in initial conditions and their changes through time.
See technical notes (page 4) for steps taken to check for bias and possible effects of extraneous conditions.	

- Among high risk counties reductions in youth’s substance use were significantly greater for high community capacity counties than for neighboring low capacity ones, even after controlling for initial differences in social and economic factors and their changes from 2000 to 2008. See Table below.
- The community wide decreases in the likelihood of substance use in high capacity counties compared to low capacity ones, net of the influence of other factors over the period 2000–2008 were statistically estimated at .35 for alcohol use, .31 for binge drinking, .25 for marijuana and .50 for cigarettes.

**Tests of Significance For Changes over Time from 2000 to 2008  
In Alcohol, Tobacco, and Drug Use among Youth (51,255 8<sup>th</sup>, 10<sup>th</sup>, & 12<sup>th</sup> graders)  
In Twelve High Risk Counties in Washington State  
A Comparison of Four Counties with High Community Capacity and  
Eight Similar Counties with Lower Community Capacity**

Dependent Variables	Alcohol 30-day use		Binge-drinking 2-week use		Marijuana 30-day use		Cigarettes 30-day use	
	<i>b</i>	<i>Sig.</i>	<i>b</i>	<i>Sig.</i>	<i>b</i>	<i>Sig.</i>	<i>b</i>	<i>Sig.</i>
<i>Logistical Regression</i>								
Change over time (slope) for comparison counties (lower community capacity)	-0.005	0.323 n.s.	-0.020	0.001 sig.	-0.004	0.533 n.s.	-0.018	0.007 sig.
Differences in Change over time between High capacity and comparison counties (differences between slopes)	-0.053	0.000 sig	-0.046	0.000 sig.	-0.046	0.000 sig.	-0.086	0.000 sig.
Calculated slope for High capacity counties (slope for comparison counties plus difference)	-0.058		-0.066		-0.050		-0.104	

Note: Controlling for 1999 initial levels and 1999-2007 changes in county-level variables -- poverty level (food stamps), adult crime, racial/ ethnic composition, population movement and family stability (divorce rates); and ethnicity for individual youth .

## Next Research Steps

1. Increase construct validity of the findings by examining other school survey variables to find whether, as anticipated, changes in laws and norms and other community risk and protection factors increased more over time, from 2000 to 2008, in high community capacity counties compared to low capacity ones.
2. Increase validity of our community capacity measure by assessing capacity directly with new survey questions and focus groups in the twelve counties in this study.
3. Explain the process of community capacity building through ethnographic studies in the four high capacity counties documenting retrospectively the various activities in the past 10 years, 1998-08.
4. Engage neighboring comparison counties to implement principles of community capacity building learned from participatory research in high capacity counties and test prospectively whether improvements occur in community capacity and substance use rates in these comparison counties.

## Technical Notes

Analyses conducted to check for biases and exclude other possible explanations for the observed results:

1. Bias (differences) among high capacity counties - We checked that reductions in substance use were similar (not significantly different) among the high community capacity counties, so that the results were not a function of one or two exceptionally well performing counties among the high capacity ones.
2. Bias in choice of comparison counties - For each high capacity county, we checked that the two neighboring comparison counties were similar in socioeconomic characteristics and history. We also checked that substance use, for each substance, was similar at baseline (2000) between high capacity and low capacity counties.
3. Biases introduced by different survey response rates through the years and across counties affecting observed results (possible biases due to different completeness of survey data across counties across years)
  - We checked for the effect of counties that did not participate at all in the school survey in early years. We found that among high capacity counties all counties participated in the survey in all years, 2000 to 2008. Among comparison counties, 2000 year data was missing for four of the eight comparison counties. We repeated the analysis for the 2002 to 2008 year period and found that completeness of data did not significantly affect slopes across years, whether they were for the 2000 to 2008 period or for the 2002 to 2008 period in which data were complete.
  - We checked further whether different response rates across years affected our major findings. We found that there were only 10 cases of very low response rates (lower than a 40 percent response rate in the 180 combinations of 5 years, 12 counties and 3 school grades). Eliminating them from the data set and repeating the analyses did not affect our major findings.
4. Possible effects of "regression to the mean" (a statistical phenomenon where exceptionally high rates tend to get closer to the average rate through time) explaining the findings - We compared the rates for the high capacity counties included in this study with overall rates in Washington State. As expected, the average rates at baseline (2000) were above the state average since the counties were chosen among "high risk" ones (high prevalence of adverse childhood experiences). However, the substance use rates among high capacity counties ended up *below* the state average rates at the end of our study period: changes in rates actually exceeded those of the state as a whole. Changes in substance use among comparison counties were similar to state changes, their rates remaining higher than state rates.
5. Possible differences in substance use among 6<sup>th</sup> grade cohorts of youth through time affecting the observed differences in substance use rates among 8<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup> graders – We found no significant differences in rates through time among 6<sup>th</sup> graders, and between low and high capacity counties among 6<sup>th</sup> graders.
6. Possible high effects in one grade (among the 8<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup> graders) accounting for the overall observed effect - We checked for differences in changes of substance use through time (differences in slopes) between youth in 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grades for each measure of substance use and found only minor differences.
7. Possible effects of clustering of survey observations – We obtained the same levels of significance for differences in trends between high and low capacity counties using survey logistic regression models (the SURVEYLOGISTIC procedure in SAS) and general linear regression models (the GENMOD GEE procedure in SAS) and identifying existing county level clusters.

Additional copies of this paper may be obtained from [www.fpc.wa.gov](http://www.fpc.wa.gov).



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